

國立中山大學九十學年度碩博士班招生考試試題

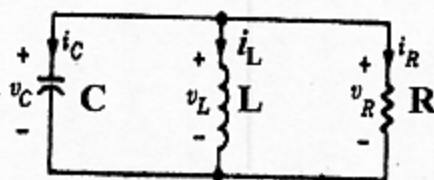
科目：基礎電路學【電機系】碩士在職專班

共 2 頁 第 1 頁

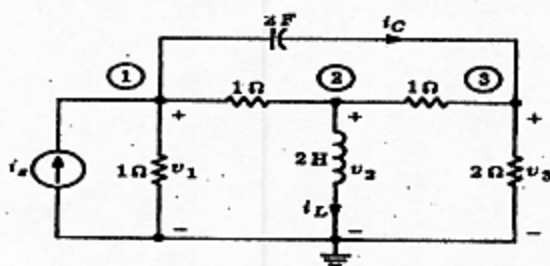
2001 碩士在職專班 電路學

共四題,每題 25 分:子題(1) 10 分,盡量說明完整;子題(2)15 分

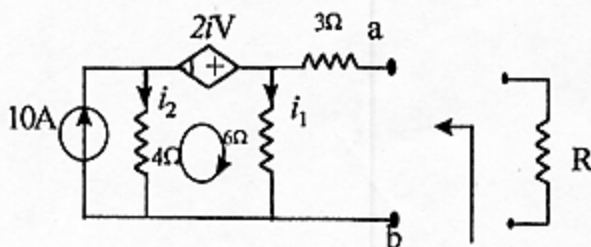
1. (1) Describe the "complete response" of a second order circuit?
- (2) For the following circuit, $L=1\text{h}, R=2\Omega, C=0.2\text{F}$,
 $V_C(0)=6\text{v}, i_L(0)=2\text{A}$, Solve $V_C(t)$ and plot.



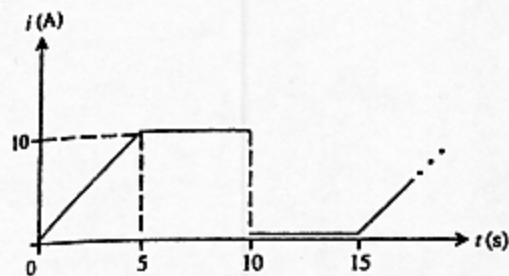
2. (1) What is the definition of "phasor"?
- (2) We know $I_s=10e^{j\omega t}$, $\omega=2$, find the output voltage $v_3(t)$ of the circuit:



3. (1) What is a "Thevenin" and "Norton" Equivalent circuit?
- (2) Try to find the Thevenin and Norton EQ circuit.



4. (1) What is the meaning of "RMS" value?
(2)



Current i is periodic as shown above. Determine the rms value (effective value) of current i . What average power will this current deliver to a $12\text{-}\Omega$ resistance?